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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Applicant : Vandenberg et al. Examiner : Harvey  
Serial No. : 08/706,136 Art Unit : 2644  
Filed : August 30, 1996 Attn.'s Doc. : HW-106-A  
For : **IMPROVED-CUSTOMIZABILITY DIGITAL SOUND  
RELAXATION SYSTEM**

**APPELLANT'S APPEAL BRIEF**

Hon. Commissioner of Patents and Trademarks  
Washington, D.C. 20231

Sir:

**REAL PARTY IN INTEREST**

The instant appellant's brief is filed pursuant to a notice of appeal dated June 26, 2001.  
The assignee is the real party in interest, Headwaters Research & Development, Inc.

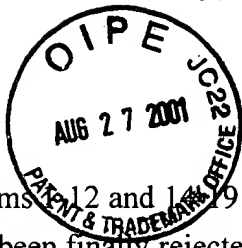
**RELATED APPEALS AND INTERFERENCES**

There are no related appeals or interferences known to the appellant, appellant's legal representative or assignee which will directly affect or be affected by the Board's decision in the instant appeal.

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**CERTIFICATE OF MAILING**

Date of Deposit 08/24/01  
I, Albert Peter Durigon, hereby certify that the above-specified paper(s) and/or fee(s) is being deposited with the U.S. Postal Service as first class mail in an envelope addressed to Honorable Commissioner of Patents and Trademarks, Washington, D.C., 20231, on the date of deposit as indicated above.



## STATUS OF CLAIMS

Claims 1-12 and 14-19 are pending in the above-captioned invention. Claims 1-12 and 14-19 have been finally rejected by the office action of February 26, 2001. Claims 1-12 and 14-19 are the subject of the instant appeal.

## STATUS OF AMENDMENTS

No amendment has been filed subsequent to the above-identified office action.

## SUMMARY OF THE INVENTION

The invention defined in the independent claims 1, 5, 10, 14, 15, and 17, and their dependents, and disclosed in the specification and drawings, is drawn to an improved-customizability digital sound relaxation system. The improved-customizability digital sound relaxation system simulates natural or other sounds, such as Rainfall or OceanSurf sounds, that not only mask noise but also serve as a possible sleep aid, especially important in today's busy and often stressed-out world.

Some of the sounds available for replay are already provided stored in internal memory (24, 98 of the embodiment of Figs. 1-7; 194, 196, 218, 230 of the embodiment of Figs. 8-10) of the improved-customizability digital sound relaxation system of the present invention, but other sounds available for replay are stored in external memory (34) of one or more collectible sound cards (30) that makes its sounds available for replay, along with those already stored in the internal memory.

Listeners desirous of soothing and/or noise masking sounds other than those already provided collect sound cards having the desired sounds and therewith customize the library of sounds to individual taste without having to purchase another digital sound relaxation device that has the desired sounds stored in its internal memory. As appears more fully below from the commercial success declaration of Mr. Troy Anderson, a principal factor motivating the commercial success of product embodying the present invention is believed to be the sound variety made available in this manner by the improved-customizability digital sound relaxation system of the present invention.

The sounds are stored in memory in either a "loop" or a "sound bite" format; the "loop" format includes a plurality of addressable memory locations each having another part of the sound to be simulated stored therein such that the parts at the start and end locations thereof are as acoustically- seamless as possible (Fig. 3A, spec. pp. 11-12, lines 22-7), whereas the "sound bite" format in accord with the present invention includes a plurality of addressable memory locations each having another part of the same natural sound stored therein, where, the parts are randomly selected and played back at random time to simulate natural "sporadic" or "intermittent" sounds (Fig. 3B, spec. pp. 12-13, lines 8-3; Fig. 7, spec. pp. 15-16, lines 21-22 ).

Operator input means (sounds select switches 14 and sound card selector switch 26 of the embodiment of Figs. 1-7; sounds select switches 184 and sound card selector switch 200 of the embodiment of Figs. 8-10) enable the listener to select sounds for replay from either the internal memory or from the external memory of the collectible sound card, and a sound controller (92 of the embodiment of Figs. 1-7; 244 of the embodiment of Figs. 8-10) responsive to operator input sound selection plays and repetitively replays the natural or other sound selected from either the internal memory or the collectible sound card in either "loop" or "sound bite" format (Figs. 5, 6; and Figs. 5, 7; respectively show the main/loop and main/sound bite flowcharts, which are described in the corresponding portions of the spec., pp. 14-16, lines 3- 22; among other places).

In accord with one inventive aspect of the present invention, and in broad terms commensurate with the final rejection of record for obviousness discussed below, the claimed combinations as a whole of the independent claims 1 and claim 14 call for, among other things, a collectible sound card having prerecorded sounds therein (see, e.g., Fig. 2 and the spec. at p. 9, lines 1-18, among other places), and call for a digital sound relaxation and noise masking device operable in built-in and sound card replay modes cooperative therewith to make the sounds of the collectible sound card available for replay by the sound controller thereof in addition to the built-in sounds of the digital sound relaxation and noise masking device (see, e.g., Figs. 1 and 8 and the spec., respectively, at p. 13, lines 4-15 and at p. 20, lines 4-24, among other places).

Dependent claims 2-4, dependent from independent claim 1, respectively call for a digital sound relaxation and noise masking device port (16 in the embodiment of Fig. 1 and 188 of the embodiment of Fig. 8) which includes an electrical connector (20 in the embodiment of Fig. 1 and 192 of the embodiment of Fig. 8), and a sound card connector adapted to mate therewith (32 in Fig. 2); a plurality of sound selector switches and sound card selector switch for reassigning the sound selector switches between built-in and sound card sounds (switch 26 of the

embodiment of Fig. 1 and switch 200 of the embodiment of Fig. 8); and indicia associating sound selector switches and sounds of the collectible sound card (22 and 36, 38 of the Figs. 1A and 2).

In accord with another inventive aspect of the present invention, and in broad terms commensurate with the final rejection of record for obviousness discussed below, the claimed combinations as a whole of the independent claims 5 and 15 call for, among other things, a digital sound relaxation and noise masking device operable in built-in and sound card replay modes (see, e.g., Figs. 1 and 8 and the spec., respectively, at p. 13, lines 4-15 and at p. 20 lines 4-25, among other places) adapted to mate (port 16 of the embodiment of Fig. 1 and port 188 of the embodiment of Fig. 8) with a collectible sound card (30 of Fig. 2) and operative to play prerecorded sounds built-in with the digital sound relaxation and noise masking device in built-in sound replay mode and/or sounds on the collectible sound card in sound card replay mode (again, see, e.g., Figs. 1 and 8 and the spec., respectively, at p. 13, lines 4-15 and at p. 20 lines 4-25, among other places).

Dependent claims 6-9, dependent from independent claim 5, respectively call for a collectible sound card (30 in Fig. 2); a port provided through the top of the housing to receive the sound card (16 in the embodiment of Fig. 1 and 188 in the embodiment of Fig. 8); "loop" format storage (Fig. 3A, spec., pp. 11-12, lines 22-7, among other places); and "sound bite" format storage (Fig. 3B., spec., pp. 12-13, lines 8-3, among other places).

Dependent claim 16, dependent from independent claim 15, calls for a collectible sound card (30 in Fig. 2).

In accord with a further inventive aspect of the present invention, and in broad terms commensurate with the final rejection of record for obviousness discussed below, the claimed combinations as a whole of the independent claims 10 and 17 call for, among other things, a collectible sound card having plural prerecorded sounds (30 of Fig. 2) for use with a digital sound relaxation and noise masking device operable in built-in and sound card sounds replay modes to play prerecorded built-in and/or sound card sounds (see, e.g., Figs. 1 and 8 and the spec., respectively, at p. 13, lines 4-15 and at p. 20 lines 4-25, among other places), adapted to make its sounds available for replay by the digital sound relaxation and noise masking device in sound card replay mode in addition to the built-in sounds in built-in sound replay mode, that includes a digital memory device having a plurality of sounds of preselected type stored therein

(34 of Fig. 2), and a connector electrically connected thereto adapted for connection with the digital sound relaxation and noise masking device (32 of Fig. 2).

Dependent claims 11-12, dependent off of independent claim 10, respectively call for "loop" format storage (Fig. 3A, spec., pp. 11-12, lines 22-7); and "sound bite" format storage (Fig. 3B., spec., pp. 12-13, lines 18-3 ).

Dependent claim 18, dependent off of independent claim 17, calls for a digital sound relaxation device having an internal memory (24 in Fig. 1 and 194 and 196 in Fig. 8), a connector adapted to mate with the collectible sound card (20 in Fig. 1 and 192 in Fig. 8) , and a digital controller operable in sound card and stand-alone modes (see, e.g., Figs. 1 and 8 and the spec., respectively, at p. 13, lines 4-15 and at p. 20 lines 4-25, among other places).

Dependent claim 19, multiply dependent off of each of the six (6) independent claims, calls for "sound bite" storage format wherein each sound includes at least two different self-contained complete-in-themselves versions of the same sound (see, e.g., the spec at p. 12, lines 8-26, among other places), and a controller operative to play sounds stored in "sound bite" format by randomly choosing versions of the sound selected, randomly choosing a time when to replay it, and replaying the randomly chosen version at randomly chosen time for the duration of playback (see, e.g., Figs. 5, 7; spec., p.14, lines 3-23, pp. 15-16, lines 21-22).

## ISSUES

- (1) Whether the Rejection of Claims 1-12 and 14-19 under 35 U.S.C. 103(a) as Obvious over Smith in View of Kramer States a *Prima Facie* Case of Obviousness.
- (2) Whether Claims 1-12 and 14-19 Are Unpatentable under 35 U.S.C. 103(a) over Smith in View of Kramer.

## GROUPING OF CLAIMS

The independent claims 1 and 14; 5 and 15; and 10 and 17; and their respective dependent claims; are not believed to stand or fall together with the group of claims 1-12 and 14-19 rejected under 35 U.S.C. 103 (a) as obvious over Smith in view of Kramer.

## ARGUMENT

### (1) The Rejection of Claims 1-12 and 14-19 under 35 U.S.C. 103(a) as Obvious over Smith in View of Kramer Fails to State a *Prima Facie* Case of Obviousness.

The combination rejection of record for obviousness reads:

"Claims 1 to 12 and 14 to 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith (US 5,619,179) in view of Kramer (WO 83/01705).

Consider claim 1, Smith teaches a digital sound relaxation and noise masking system comprising: a digital sound relaxation device having operator input sound selection means, a built in memory (e.g. the memory in the processor), the memory having preselected and prerecorded sounds selectable for individual replay, and a sound controller that is coupled to the memory and the operator input means and operative in built-in sounds replay mode to play any sound of the built-in memory selected via the operator input sound selection means and to repetitively replay sounds without disrupting pauses. Smith does not show a collectible sound card in [or] associated with the device.

Kramer discloses that it has been well known in the art to provide a system which can provide extra sound entertainment from a collectible sound card (see page 3). Thus it would have been obvious for one skilled in the art at the time the invention was made to apply the teaching of Kramer to the device of Smith so that more different choices of sound signals could have been accessed by the user.

Consider claim 2, the device of Smith as modified teaches the claimed limitation. . . .

Consider claims 5 to 7, 10 and 14-18 [which include the independent claims 5, 10, 14, 15, and 17]. Note the discussion of claims 1 to 2, the device of Smith as modified teaches the claimed limitation.

Consider claims 8 to 9, 11 to 12 and 19, the device of Smith as modified teaches the claimed limitation, e.g., the examiner takes official notice that audio signals stored in a sound bit [sic] format are well known in the art and therefore would have been obvious since it is just another well-known alternate formats [sic] that audio signals could have been stored in.

This is in response to the applicant's remark [sic] which was received on October 12, 2000.

On page 2, line 1 to page 3, line 19, the applicant has argued [the] Kramer reference does not disclose a collectible sound card having prerecorded sounds operative to add its sounds to built-in sounds of a sound replay unit in order to customize the library of sounds to individual taste as in the present invention, and there is no objective reason, either express or by necessary implication, which would motivate one of skill in the art to combine the programmable bubble memory card of Kramer with the method and apparatus for enhancing electronically generated sounds of Smith to provide the claimed combination as a whole of the independent claims of the present invention'. The applicant's argument is not persuasive because Smith as modified with Kramer does disclose claimed invention. Since Kramer reference discloses that it is well known to have a collectible sound card for retrieving data for supply to sound reproduction system, it would have been obvious to combine Kramer's reaching [sic] with [the] Smith reference which discloses a memory having pre-selected and prerecorded sounds selectable for individual replay" (emphasis mine).

It is well settled that a combination rejection for obviousness, to be proper, cannot pick and choose various elements of prior art references arbitrarily and combine them with the benefit of impermissible hindsight, but must point out where from the references to be combined, either explicitly or implicitly, there is clear objective evidence motivating one skilled in the art to make the proposed combination. *In re Fine*, 837 F.2d 1071, 5 USPQ 2d 1596 (Fed. Cir. 1988); *In re Fritch*, 972 F.2d 1260, 23 USPQ2d 1780 (Fed. Cir. 1992); *In re Oetiker*, 977 F.2d 1443, 24 USPQ 2d 1443 (Fed. Cir. 1992).

However, what is erroneously absent from the combination rejection of record for obviousness apparent statement of motivation -- the naked conclusion that "applicant's argument is not persuasive because Smith as modified with Kramer does disclose claimed invention" -- is any indication whatsoever where the motivation is to be found from the references to be combined, let alone what the motivation is, that would clearly lead one skilled in the art to combine Kramer with Smith to provide the invention of the claimed combinations as a whole of the independent claims of the present invention. The same kind of naked conclusion was applied to the independent claims 5, 10, 14, 15, and 17: "Consider claims 5 to 7, 10 and 14-18. Note the discussion of claims 1 to 2, the device of Smith as modified teaches the claimed limitation."

Accordingly, since the final rejection relies on a naked conclusion as to obviousness rather than provide any objective statement of motivation, it is respectfully submitted that the combination rejection of record for obviousness is clearly based on impermissible hindsight alone and thereby fails to support a *prima facie* case of obviousness.

Nor is there clear motivation for the combination to be found from the way the individual references are characterized, for the combination rejection for obviousness of record materially mischaracterizes the Kramer reference, attributing to it a feature that it does not in fact possess.

The Kramer reference is cited for "a system which can provide extra sound entertainment from a collectible sound card," in view of which it is said that "it would have been obvious for one skilled in the art at the time the invention was made to apply the teachings of Kramer to the device of Smith so that more different choices of sound signals could have been accessed by the user." However, the Kramer reference does not disclose "a system which can provide extra sound entertainment from a collectible sound card" (emphasis mine).

Kramer discloses a portable data processing and storage card (Fig. 1) and cooperative input recorder (not shown) and sound replay unit (Fig. 2), operative in write mode to digitally store a music track (or other sound piece) on the digital processing and storage card when connected to the input recorder, and operative in read mode to play the stored music track on the sound replay unit when the card is connected to the sound replay unit.

The digital processing and storage card includes input and output ports respectively couplable to the input recorder and sound replay unit, a bubble memory, and D/A decoders. The card itself has a controller, coupled to the I/O ports, the D/A decoders and the bubble memory



that is operative in write mode to store data and control information in the bubble memory when the card is connected to the input recorder via the input port, and that is operative in read mode to output the music and control data stored in the bubble memory when the card is connected to the sound replay unit via the output port.

The portable data processing and storage card in write mode is reprogrammable when connected to the input recorder like a cassette tape that is re-recordable in a cassette player, which enables a different sound to be stored thereon for subsequent replay in the sound replay unit thereof. And like a gramophone record whose sounds may be replayed on a record player, the sound stored on the portable data processing and storage card when it is in read mode may be replayed on the sound replay unit when connected to the sound replay unit.

There can only be the disclosure of "a system which can provide extra sound entertainment from a collectible sound card" if the alleged sound reproduction system is already capable of playing at least one built-in sound with respect to which the added sounds may be said to be "extra." But if the sound system in question cannot already play some sounds – as in the Kramer reference – but is only capable of playing the sounds of the added sounds, the added sounds are in no sense "extra."

For just as a cassette tape/recorder and a gramophone record/record player do not teach or suggest systems which can provide "extra" sound entertainment respectively from a cassette or record, but only reproduce their sounds without which there simply are no sounds to play, the digital processing and storage card and associated sound replay unit of Kramer, which is functionally equivalent in this respect to a cassette tape/recorder or a gramophone record/record player-system, does not teach or suggest "a system which can provide extra sound entertainment from a collectible sound card."

It is axiomatic that a *prima facie* case of obviousness, everything else being equal, cannot stand where one of the combined references is materially mischaracterized.

Accordingly, it is respectfully submitted that the combination rejection of record for obviousness fails, for this further reason, to state a *prima facie* case of obviousness.

Since no clear motivation beyond the naked conclusion as to obviousness appears either explicitly or implicitly on the face of the combination rejection of record for obviousness, and

because the Kramer reference is materially mischaracterized, it is respectfully submitted that the combination rejection of record for obviousness fails to support a *prima facie* case of obviousness and that your appellant is entitled to an allowance of the claims 1-12 and 14-19.

(2) Claims 1-12 and 14-19 Are Patentable under 35 U.S.C. 103(a) over Smith in View of Kramer.

The references of record each taken as a whole and together in their entirety fail to teach or even remotely suggest the invention of the claimed combinations as a whole of the independent claims of the instant invention and/or the invention of the claimed combinations as a whole of the independent claims of the instant invention achieve more than a combination which any or all of the Smith and Kramer references teach or suggest, either explicitly or by reasonable implication. Cf. *In re Sernacker* 702 F.2d 989, 217 USPQ 1 (Fed. Cir. 1983).

Smith, the primary reference, is drawn to a special sound effects generator. The intent of the module 20 of the Smith special sound effects generator is stated at col. 2, lines 1-8: "In summation, there is a need for an electronic sound generator that can produce sounds having more perceived sound depth, and improved sensation of spatial separation between channels. Such generator should provide a greater variety of sound sensations, including the ability for the user to create new and continuously varying sound patterns. The present invention [referring to Smith] discloses such an electronic sound generator" (emphasis mine).

To achieve these specific design ends, module 20 of the Smith sound effects generator employs phase-shiftable digital synthesizer chips to provide pseudo-stereo sound effects having depth and spatial separation in LOCK mode, and new and continuously varying drifting/migrating sound effects in UNLOCK mode.

The pseudo-stereo sound effects in LOCK mode result from playing the same prerecorded continuous (loop) sound by each digital synthesizer chip, with offset loop start times therebetween. "This offset between the left and right channels produces an interesting pseudo-stereo effect" (Smith; col. 2, lines 33-34).

The new and continuously varying drifting/migrating sound effects in UNLOCK mode result from playing the same prerecorded continuous (loop) sounds by each digital synthesizer chip with offset loop start times and at wandering clock rates. "As in the LOCK mode, the

second IC will begin to output its sound loop before the first IC begins to output. However, the relative offset in time between the same point in each of the identical sound loops can vary continuously because each IC is now clocked at a slightly different rate. A continuously varying sound pattern is generated" (Smith; col. 2, lines 38-44).

Smith's special sound effects module 20 only contemplates the use of continuous (loop) sounds having fixed start times, and can only use continuous (loop) sounds, for otherwise-- such as for intermittent sounds, which by definition are non-continuous and have no such fixed start times -- the offset in loop start times introduced in LOCK mode would not be able to achieve the intended pseudo-stereo sound effects having depth and spatial separation, and the offset in loop start times and wandering digital synthesizer clock rates introduced in UNLOCK mode would not be able to achieve the intended new, and continuously varying drifting/migrating sound effects.

Again, as discussed above, Kramer discloses a digital processing and storage card and cooperative sound reproduction unit that only plays the sounds programmed on the bubble memory of the digital processing and storage card absent which the sound reproduction unit itself simply has no sounds to replay.

*The Invention of the Claimed Combinations as a Whole of the Independent Claims 1 and 14.*

Whereas the Smith special sound effects module 20 introduces phase shifts into the start times of continuous loop sounds played by digital synthesizer chips to synthesize pseudo-stereo effects in LOCK mode and introduces phase shifts into the start times of continuous loop sounds at wandering clock-rates played by its digital synthesizer chips to synthesize drifting/migrating sound effects in UNLOCK mode, while Kramer discloses a digital processing and storage card and sound reproduction unit cooperative therewith to play sounds programmed on the programmable bubble memory thereof absent which it has no sounds to play, it is respectfully submitted that the special sound effects generator of Smith and the digital processing and storage card and cooperative sound reproduction unit of Kramer, each taken as a whole and all taken together, fail to teach or even remotely suggest the recited collectible sound card having prerecorded sounds therein and a digital sound relaxation and noise masking device operable in built-in and sound card replay modes cooperative therewith to make the sounds of the collectible sound card available for replay by the sound controller thereof in addition to the built-in sounds

of the digital sound relaxation and noise masking device of the claimed combinations as a whole of the independent claims 1 and claim 14 of the present invention.

*The Invention of the Claimed Combination as a Whole of the Dependent Claim 3.*

Since the combination rejection of record for obviousness fails to teach or suggest a collectable sound card and digital sound relaxation device cooperative therewith to play sounds selected from the sound card in sound card mode and to play internal sounds in built-in sounds mode, *a fortiori*, there is no teaching therein, howsoever slight, of the recited sound card selector switch for reassigning sound selector switches between the sound card and built-in sounds of the claimed combination as a whole of the dependent claim 3 (nor of the same limitations in independent claim 5).

Accordingly, for these reasons, your appellant respectfully requests the Board to reverse the rejection and allow the independent claims 1 and 14 and their dependents of the instant invention.

*The Invention of the Claimed Combinations as a Whole of the Independent Claims 5 and 15.*

Whereas the Smith special sound effects module 20 is operable in LOCK mode to synthesize pseudo-stereo effects and is operable in UNLOCK mode to synthesize drifting/migrating sound effects, while the Kramer sound reproduction unit is only operable to play sounds programmed on the bubble memory of its digital processing and storage card absent which it has no sounds to play, it is respectfully submitted that the special sound effects generator of Smith and digital processing and storage card sound reproduction unit of Kramer, each taken as a whole and all taken together, fail to teach or even remotely suggest the recited digital sound relaxation and noise masking device operable in built-in and sound card replay modes adapted to mate with a collectible sound card and operative to play prerecorded sounds built-in with the digital sound relaxation and noise masking device in built-in sound replay mode and/or sounds on the collectible sound card in sound card replay mode of the claimed combinations as a whole of the independent claims 5 and 15 of the present invention, and, *a fortiori*, does not teach or suggest the recited sound card selector switch for reassigning sound selector switches between the sound card and built-in sounds of the claimed combination as a whole of the independent claim 5.

Accordingly, for these reasons, your appellant respectfully requests the Board to reverse the rejection and allow the independent claims 5 and 15 and their dependents of the instant invention.

*The Invention of the Claimed Combinations as a Whole of the Independent Claims 10 and 17.*

Whereas the Smith special sound effects module 20 produces pseudo-stereo and drifting/migrating sound effects by introducing time offsets into the start times and/or wandering clock rates into the loop sounds played by its digital synthesizer chips but does not "show a collectible sound card" associated therewith, while the digital processing and storage card of Kramer is only adapted for a sound reproduction unit which otherwise has no sounds to play, it is respectfully submitted that the special sound effects generator of Smith that simply has no sound card and the digital processing and storage card adapted for the sound reproduction unit of Kramer that otherwise has no sounds to play, each taken as a whole and all taken together, fail to teach or even remotely suggest the recited collectible sound card having plural prerecorded sounds for use with a digital sound relaxation and noise masking device operable in built-in and sound card sounds replay modes to play prerecorded built-in and/or sound card sounds adapted to make its sounds available for replay by the digital sound relaxation and noise masking device in sound card replay mode in addition to the built-in sounds in built-in sound replay mode that includes a digital memory device having a plurality of sounds of preselected type stored therein and a connector electrically connected thereto adapted for connection with the digital sound relaxation and noise masking device of the claimed combinations as a whole of the independent claims 10 and 17 of the present invention.

Accordingly, for these reasons, your appellant respectfully requests the Board to reverse the rejection and allow the independent claims 10 and 17 and their dependents of the instant invention.

*The Invention of the Dependent Claims 9, 12, and 19.*

Whereas Smith's special sound effects module 20 only contemplates the use of continuous (loop) sounds having fixed start times, and can only use continuous (loop) sounds, for otherwise-- such as for intermittent sounds, which by definition are non-continuous and have no such fixed start times -- the offset in loop start times introduced in LOCK mode would not be

able to achieve the intended pseudo-stereo sound effects having depth and spatial separation, and the offset in loop start times and wandering digital synthesizer clock rates introduced in UNLOCK mode would not be able to achieve the intended new, and continuously varying drifting/migrating sound effects, while the sounds recorded in the programmable bubble memory of the digital processing and storage card of Kramer are neither in loop or in intermittent format, it is respectfully submitted that the special sound effects generator of Smith and the digital processing and storage card of Kramer, each taken as a whole and all taken together, fail to teach or even remotely suggest the recited "sound bite" format storage of the dependent claims 9 and 12 and such "sound bite" format storage of the dependent claim 19 that calls for random selection of different complete-in-themselves versions of the same intermittent sound and playback thereof at random times of the present invention.

Accordingly, for these reasons, as well as for the failure to provide the "reference in support of his or her position (MPEP 2144.03)," requested in the amendment of 10/07/200 but unaddressed in the office action of 02/06/01, your appellant respectfully requests the Board to reverse the rejection and allow the invention of the claimed combinations as a whole of the dependent claims 9, 12, and 19 of the present invention.

*Secondary Considerations of Non-obviousness.*

Enclosed herewith is a copy of the declaration of Mr. Troy Anderson, which is believed to establish a nexus between the inventive aspects of the claimed combinations as a whole of the independent claims of the above-captioned invention and the commercial success of products embodying the present invention, and is hereby resubmitted as secondary evidence of the non-obviousness of the present invention (it was originally submitted as part of the CPA application and preliminary amendment filed 12/17/1998, and resubmitted with the amendments filed 02/11/2000 and 10/07/2000, but unaddressed by any office action).

As evidenced by paragraph 1 thereof, Mr. Anderson has a masters degree in business, is a co-inventor of the above-captioned invention, and is Vice President of Headwaters Research & Development, Inc., the owner of the above-captioned invention.

As evidenced by paragraph 2 thereof, as Vice President of Headwaters Research & Development, Inc., among other things, he is responsible for selling and marketing new products

for world markets and for evaluating consumer responses to the products developed in order to monitor product acceptance and insure present and future consumer satisfaction.

As evidenced by paragraph 3 thereof, digital sound relaxation and noise masking devices represent a unique category of consumer products that are designed to alleviate stress and to promote a state of relaxation and calm.

As evidenced by paragraph 4 thereof, these devices simulate a natural or other sound environment that masks noise and soothes the listener without disrupting pauses.

As evidenced by paragraph 5 thereof, due to stress and noise not uncommon in modern Western societies, there is a considerable need for such devices.

As evidenced by paragraph 6 thereof, the present United States market for such devices is estimated at about 60 million dollars annually, which is expected to grow at a per annum rate of about 30 percent.

As evidenced by paragraph 7 thereof, the above-captioned invention is drawn to improved-customizability digital sound relaxation and noise masking devices that permit customers to customize the library of available sounds to their individual tastes and personal preferences by collecting collectible sound cards.

As evidenced by paragraph 8 thereof, in one of its inventive aspects, the claimed combinations as a whole of the independent claims 1 and 14 of the above-captioned invention call for, among other things, a collectible sound card, and a digital sound relaxation and noise masking device, cooperative therewith, in another of its inventive aspects, the claimed combinations as a whole of the independent claims 5 and 15 call for, among other things, a digital sound relaxation and noise masking device adapted to mate with a collectible sound card, and in another of its inventive aspects, the claimed combinations as a whole of the independent claims 10 and 17 call for, among other things, a collectible sound card for use with a digital sound relaxation and noise masking device.

As evidenced by paragraph 9 thereof, Headwaters Research & Development, Inc. and its affiliates ("Headwaters") currently markets four (4) collectible sound cards as detailed in Attachment "A" thereto.

As evidenced by paragraph 10 thereof, Headwaters sells under its Tranquil Moments® marks a line of commercially successful improved-customizability digital sound relaxation and noise masking devices in accord with the above-captioned invention, which have received consumer acceptance to the amount of about 10 million dollars per annum, which is about 17 percent of the estimated present annual United States market for digital sound relaxation and noise masking devices.

As evidenced by paragraph 11 thereof, Headwaters includes an owner's reply card with each improved-customizability digital sound relaxation and noise masking device in accord with the above-captioned invention sold under the Tranquil Moments® marks, and compiles information from those that are returned as well as from sales and other data.

As evidenced by paragraph 12 thereof, consumer feedback to the Tranquil Moments® products has indicated the first importance of sound variety to owners of improved-customizability digital sound relaxation and noise masking systems of the embodiment of Figs. 1-7 in accord with the present invention as detailed in Attachment "B" thereto, which shows a bar chart compiled from 228 owner's reply cards from the years 1996-1997.

As evidenced by paragraph 13 thereof, the first importance of sound variety is believed on the one hand to be due to owner's different tastes in sounds. For example, one owner of a digital sound relaxation and noise masking device may prefer the sound of Rain Falling on a Tin Roof because it reminds them of similar cozy, rainy nights as a child, while another owner may prefer the sounds of Ocean Surf with Seagulls, because it reminds them of their of their favorite Hawaiian vacation. Since the heretofore known digital sound relaxation and noise masking devices only included a limited selection of built-in sounds, the collectible sound cards of the improved-customizability digital sound relaxation and noise masking devices of the present invention provide customers with an expanded selection of sounds from which to choose, thereby increasing the probability that owners can find their ideal sound(s).

As evidenced by paragraph 14 thereof, the first importance of sound variety is believed on the other hand to be due to owner's different use situations and different moods. It is known that a large percentage of digital sound relaxation and noise masking device owners alternate between available sounds. Some do this for variety, others do it to suit different use situations or moods. For example, some owners may prefer a good noise blocking sound like a Waterfall for use at the office, while at home they may prefer the gentler Rain sound for relaxation. The



collectible sound cards of the improved-customizability digital sound relaxation and noise masking devices in accord with the present invention provide a much larger repertoire from which users can find satisfactory sounds to fit the usage situation and prevailing mood.

As evidenced by paragraph 15 thereof, both to accommodate individual user's different tastes in sounds and to accommodate different use situations and changing moods, the inventive aspects of the claimed combinations as a whole in accord with the improved-customizability digital sound relaxation and noise masking devices of the present invention help satisfy what consumer response has indicated as the first importance of sound variety to owner's of digital sound relaxation and noise masking devices.

As evidenced by paragraph 16 thereof, five (5) representative owner's reply cards attached as Attachment "C" thereto detail the general importance of digital sound relaxation and noise masking devices to individual owners of improved-customizability digital sound relaxation and noise masking devices in accord with the present invention, and five (5) representative owner's reply cards attached as attachment "D" thereto detail the specific importance of the inventive aspects of the claimed combinations as a whole of the improved-customizability digital sound relaxation and noise masking devices in accord with the present invention.

As evidenced by paragraph 17 thereof, moreover, consumer response has indicated that two (2) out of three (3) owners of digital sound relaxation and noise masking devices traded under the Tranquil Moments® marks purchase at least one collectible sound card as detailed in Attachment "E" thereto, which shows a pie chart compiled from sales data for improved-customizability-digital-sound-relaxation and noise masking devices in accord with the present invention for the years 1996-1997.

As evidenced by paragraph 18 thereof, since the devices adapted to mate with collectable sound cards sold under the Tranquil Moments® marks in accord with the above-captioned invention are not sold with collectable sound cards, the fact that the overwhelming majority of owners of these devices go on to purchase one or more collectable sound cards, which are individually packaged and separately sold, underscores that the inventive aspects of the claimed combinations as a whole of the present invention are a principal factor motivating the commercial success of the Tranquil Moments® products in accord with the above-captioned invention.



## CONCLUSION

Wherefore, your Appellant respectfully requests the Board to reverse the combination rejection for obviousness of record and allow the claims 1-12 and 14-19 of the instant invention.

Respectfully submitted,

RUDY A. VANDENBELT ET AL.

By:

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## APPENDIX

1 1. An improved-customizability digital sound relaxation and noise masking system, comprising:  
2 a digital sound relaxation device having operator input sound selection means, a built-in  
3 memory, said memory having pre-selected and prerecorded sounds selectable for individual replay,  
4 and a sound controller that is coupled to said memory and said operator input means and operative  
5 in built-in sounds replay mode (1) to play any sound of said built-in memory selected via said  
6 operator input sound selection means and (2) to repetitively replay it so as to create a sound  
7 environment that masks noise and soothes the listener without disrupting pauses; and  
8 a collectable sound card having prerecorded, pre-selected sounds therein cooperative with  
9 said digital sound relaxation and noise masking device to make available its sounds for replay by  
10 said digital sound relaxation and noise masking device, thereby customizing the sounds playable by  
11 said digital sound relaxation and noise masking device to the tastes of the user in accord with the  
12 particular collectable sound card collected, such that the sound controller thereof is operative in  
13 sound card sounds replay mode (1) to play any sound of said collectable sound card selected via said  
14 operator input means and (2) to repetitively replay it so as to create a sound environment that masks  
15 noise and soothes the listener without disrupting pauses.

---

1 2. The improved-customizability digital sound relaxation and noise masking system of claim 1,  
2 wherein said digital sound relaxation and noise masking device includes a port for receiving said  
3 collectable sound card, which port includes an electrical connector, and wherein said collectable  
4 sound card is adapted for insertion in said port and includes a connector adapted to mate with said  
5 connector of said port when inserted therewithin.

1 3. The improved-customizability digital sound relaxation and noise masking system of claim 1,  
2 wherein said operator input sound selection means of said digital sound relaxation and noise masking  
3 device includes a plurality of sound selector switches for selecting individual ones of said built-in,  
4 pre-selected and prerecorded sounds, and further includes a sound card selector switch for  
5 reassigning said switches between said built-in and said sound card sounds.

1 4. The improved-customizability digital sound relaxation and noise masking system of claim 3,  
2 further including corresponding indicia on said digital sound relaxation and noise masking device  
3 and said collectable sound card for associating said sound selector switches and said sounds of said  
4 collectable sound card.

1 5. An improved digital sound relaxation and noise masking device that enables individuals to  
2 customize their collection of sounds to their individual tastes, comprising:

3 (1) an internal digital memory in which a plurality of prerecorded sounds are digitally stored  
4 therein in a predetermined manner;

5 (2) at least one sound selector switch for selecting one of said plurality of prerecorded sounds  
6 digitally stored in said internal digital memory for replay;

7 (3) a port for receiving an external digital memory sound card having a plurality of  
8 prerecorded sounds different from said plurality of prerecorded sounds stored in said internal digital  
9 memory;

10 (4) a sound card selector switch to reassign said at least one sound selector switch from its  
11 said function of selecting one of said plurality of prerecorded sounds digitally stored in said internal  
12 digital memory for replay to the function of selecting one of said plurality of prerecorded sounds  
13 stored in said external sound card for replay whenever the same is received in said port; and

14 (5) a sound controller including a processor coupled to said port and to said digital memory  
15 and responsive to said switches operable in one of two (2) basic modes; in one built-in mode, any  
16 prerecorded sound stored in said internal digital memory is played by activating said at least one  
17 sound selector switch and repetitively replayed in such a way as to provide a sound environment that  
18 masks noise and soothes the listener without disrupting pauses, and in another sound card mode, any  
19 prerecorded sound stored in external digital memory of a collectable sound card inserted within said  
20 port is played by activating said sound card selector switch and by activating said at least one sound  
21 selector switch and repetitively replayed to provide a sound environment that masks noise and  
22 soothes the listener without disrupting pauses.

1 6. The improved digital sound relaxation and noise masking device of claim 5, further including a  
2 collectable sound card.

1 7. The improved digital sound relaxation and noise masking device of claim 5, further including a  
2 housing having a top wall whereinthrough said port is provided.

1 8. The improved digital sound relaxation and noise masking device of claim 5, wherein said internal  
2 memory has at least one prerecorded sound digitally stored therein in a "loop" format defining (1)  
3 a plurality of addressable memory locations and (2) start and end locations, such that a different part  
4 of said sound is stored at another address location and in such a way that the parts stored at the start  
5 and end locations are as acoustically-seamless as possible.

1 9. The improved digital sound relaxation and noise masking device of claim 1, wherein said internal  
2 memory has at least one prerecorded sound digitally stored therein in a "sound bite" type format  
3 defining at least two (2) groups of addressable memory locations, such that another self-contained  
4 and complete-in-itself version of the same sound is stored in each of said at least two (2) groups of  
5 addressable memory locations.

1 10. A collectable sound card having sounds stored therein for use with a digital sound relaxation and  
2 noise masking device having a digital controller operative in built-in and sound card replay modes  
3 and a plurality of built-in preselected, digitally prerecorded sounds individually selectable for play  
4 and repetitive replay by said digital controller in said built-in sound replay mode so as to provide  
5 sound environments that mask noise and soothe the listener without disrupting pauses that enables  
6 individuals to customize their collection of sounds to their individual tastes by making the sounds  
7 of the collectable sound card available for play and repetitive replay by the digital controller in sound  
8 card replay mode of the digital sound relaxation and noise masking device in the same way that the  
9 built-in sounds thereof are available for play and repetitive replay in built-in replay mode so as to  
10 provide sound environments that mask noise and soothe the listener without disrupting pauses,  
11 comprising:

12 ~~----- (1) a digital memory device having a plurality of sounds of preselected type, at least some~~  
13 of which are selected to be different from said plurality of preselected sounds of said digital sound  
14 relaxation and noise masking device, stored therein in a predetermined manner; and

15 (2) a connector electrically connected to said digital memory device so adapted for  
16 connection with said digital sound relaxation and noise masking device as to add the sounds of the  
17 digital memory of the collectable sound card to the sounds of said digital sound relaxation and noise  
18 masking device thereby customizing the collection of sounds available for play and repetitive replay  
19 by said digital controller in said sound card replay mode of said digital sound relaxation and noise

20     masking device so as to provide sound environments that mask noise and soothe the listener without  
21     disrupting pauses in accord with individual taste.

1     11. The collectable sound card of claim 10, wherein at least one said prerecorded sound is digitally  
2     stored therein in a "loop" format defining (1) a plurality of addressable memory locations and (2)  
3     start and end locations, such that a different part of said sound is stored at another address location  
4     and in such a way that the parts stored at the start and end locations are as acoustically-seamless as  
5     possible.

1     12. The collectable sound card of claim 10, wherein at least one said prerecorded sound is digitally  
2     stored therein in a "sound bite" format defining at least two (2) groups of addressable memory  
3     locations, such that another self-contained and complete-in-itself version of the same sound is stored  
4     in each of said at least two (2) groups of addressable memory locations.

1     14. An improved-customizability digital sound relaxation and noise masking system, comprising:  
2     a collectable sound card, having a library of prerecorded sounds selectable for individual  
3     replay, matable with a digital sound relaxation and noise masking device, also having a library of  
4     prerecorded sounds selectable for individual replay, to expand the library of prerecorded sounds  
5     available for selectable replay by adding its library of prerecorded sounds to the library of the digital  
6     sound relaxation and noise masking device, said collectable sound card having (1) a digital memory  
7     in which a plurality of prerecorded sounds are stored for selectable replay and (2) a connector  
8     member for connection with said digital sound relaxation and noise masking device; and

9 a digital sound relaxation and noise masking device having (1) an internal digital memory  
10 in which are stored a plurality of prerecorded sounds for individual replay, (2) a connector member  
11 for connection with said connector member of said collectable sound card, and (3) a digital controller  
12 having operator input means and operative in response to at least one operator input in a sound card  
13 mode, where said collectable sound card is mated with said digital sound relaxation and noise  
14 masking device, to play and repetitively replay a selected one of the plurality of prerecorded sounds  
15 stored on either of said digital memory of said collectable sound card or of said internal digital  
16 memory of said digital sound relaxation and noise masking device in such a way as to provide sound  
17 environments that mask noise and soothe the listener without disrupting pauses, and operative in  
18 response to at least one operator input in a stand-alone mode, where said collectable sound card is  
19 not mated with said digital sound relaxation and noise masking device, to play and repetitively  
20 replay a selected one of the plurality of prerecorded sounds stored on said internal digital memory  
21 of said digital sound relaxation and noise masking device in such a way as to provide sound  
22 environments that mask noise and soothe the listener without disrupting pauses.

1 15. An improved-customizability digital sound relaxation and noise masking system, comprising:  
2 a digital sound relaxation and noise masking device having a library of prerecorded sounds  
3 selectable for individual replay stored therein in digital format, matable with a collectable sound card  
4 having a connector member, also having a library of prerecorded sounds selectable for individual  
5 replay stored therein in digital format, to expand the library of prerecorded sounds available for  
6 selectable replay by adding its library of prerecorded sounds to the library of the collectable sound  
7 card, said digital sound relaxation and noise masking device having (1) an internal digital memory  
8 in which are digitally stored a plurality of prerecorded sounds for individual replay, (2) a connector  
9 member for connection with said connector member of said collectable sound card, and (3) a digital  
10 controller having operator input means and operative in response to at least one operator input in a



11 sound card mode, where said matable digital sound relaxation and noise masking device is mated  
12 with said collectable sound card, to play and to repetitively replay a selected one of the plurality of  
13 prerecorded sounds stored on either of said digital memory of said collectable sound card or of said  
14 internal digital memory of said digital sound relaxation and noise masking device in such a way as  
15 to provide a sound environment that masks noise and soothes the listener without disrupting pauses,  
16 and operative in response to at least one operator input in a stand-alone mode, where said digital  
17 sound relaxation and noise masking device is not mated with said collectable sound card, to play and  
18 to repetitively replay a selected one of the plurality of prerecorded sounds stored on said internal  
19 digital memory of said digital sound relaxation and noise masking device in such a way as to provide  
20 a sound environment that masks noise and soothes the listener without disrupting pauses.

1 16. The improved-customizability digital sound relaxation and noise masking system of claim 15,  
2 further including a collectable sound card having a library of prerecorded sounds selectable for  
3 individual replay stored therein in digital format.

1 17. An improved-customizability digital sound relaxation and noise masking system, comprising:  
2 a collectable sound card, having a library of prerecorded sounds selectable for individual  
3 replay, matable with a digital sound relaxation and noise masking device of the type having a library  
4 of prerecorded digitally stored built-in sounds selectable for individual replay and a digital controller  
5 operative in built-in and sound card sound replay modes to (1) play and (2) repetitively replay any  
6 built-in sound selected in built-in sound replay mode in such a way as to provide a sound  
7 environment that masks noise and soothes the listener without disrupting pauses, in order to expand  
8 the library of prerecorded sounds available for selectable replay by adding its library of prerecorded  
9 sounds to the library of the digital sound relaxation and noise masking device, said collectable sound

10 card having (1) a digital memory in which a plurality of prerecorded sounds are digitally stored for  
11 selectable play and repetitive replay by said digital controller of said digital sound relaxation and  
12 noise masking device in sound card replay mode in such a way as to provide a sound environment  
13 that masks noise and soothes the listener without disrupting pauses and (2) a connector member for  
14 connection with said digital sound relaxation and noise masking device.

1 18. The improved-customizability digital sound relaxation system of claim 17, further including a  
2 digital sound relaxation device having (1) an internal digital memory in which are digitally stored  
3 a plurality of prerecorded sounds for individual replay, (2) a connector member for connection with  
4 said connector member of said collectable sound card, and (3) a digital controller having operator  
5 input means and operative in response to at least one operator input in a sound card mode, where said  
6 collectable sound card is mated with said digital sound relaxation device, to replay a selected one  
7 of the plurality of prerecorded sounds stored on either of said digital memory of said collectable  
8 sound card or of said internal digital memory of said digital sound relaxation device, and operative  
9 in response to at least one operator input in a stand-alone mode, where said collectable sound card  
10 is not mated with said digital sound relaxation device, to replay a selected one of the plurality of  
11 prerecorded sounds stored on said internal digital memory of said digital sound relaxation device.

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1 19. The invention of any one of claims 1, 5, 10, 14, 15 and 17, wherein at least some of said sounds  
2 are stored in sound bite format that define at least two different self-contained and complete-in-  
3 themselves versions of the same sound, and wherein said controller is operative to play said sounds  
4 stored in said sound bite format by (1) randomly choosing a version of the selected sound; (2)  
5 randomly choosing a time when to replay it; (3) replaying the randomly chosen version of the sound  
6 selected at the randomly chosen time; and (4) repeating (1) through (3) for the duration of playback.

1 1. An improved-customizability digital sound relaxation and noise masking system,  
2 comprising:

3 a digital sound relaxation device having operator input sound selection means, a built-in  
4 memory, said memory having pre-selected and prerecorded sounds selectable for individual  
5 replay, and a sound controller that is coupled to said memory and said operator input means  
6 and operative in built-in sounds replay mode (1) to play any sound of said built-in memory  
7 selected via said operator input sound selection means and (2) to repetitively replay it so as to  
8 create a sound environment that masks noise and soothes the listener without disrupting pauses;  
9 and

10 a collectable sound card having prerecorded, pre-selected sounds therein cooperative  
11 with said digital sound relaxation and noise masking device to make available its sounds for  
12 replay by said digital sound relaxation and noise masking device, thereby customizing the  
13 sounds playable by said digital sound relaxation and noise masking device to the tastes of the  
14 user in accord with the particular collectable sound card collected, such that the sound  
15 controller thereof is operative in sound card sounds replay mode (1) to play any sound of said  
16 collectable sound card selected via said operator input means and (2) to repetitively replay it so  
17 as to create a sound environment that masks noise and soothes the listener without disrupting  
18 pauses.

1 2. The improved-customizability digital sound relaxation and noise masking system of claim  
2 1, wherein said digital sound relaxation and noise masking device includes a port for receiving  
3 said collectable sound card, which port includes an electrical connector, and wherein said

collectable sound card is adapted for insertion in said port and includes a connector adapted to mate with said connector of said port when inserted therewithin.

3. The improved-customizability digital sound relaxation and noise masking system of claim 1, wherein said operator input sound selection means of said digital sound relaxation and noise masking device includes a plurality of sound selector switches for selecting individual ones of said built-in, pre-selected and prerecorded sounds, and further includes a sound card selector switch for reassigning said switches between said built-in and said sound card sounds.

4. The improved-customizability digital sound relaxation and noise masking system of claim 3, further including corresponding indicia on said digital sound relaxation and noise masking device and said collectable sound card for associating said sound selector switches and said sounds of said collectable sound card.

5. An improved digital sound relaxation and noise masking device that enables individuals to customize their collection of sounds to their individual tastes, comprising:

(1) an internal digital memory in which a plurality of prerecorded sounds are digitally stored therein in a predetermined manner;

(2) at least one sound selector switch for selecting one of said plurality of prerecordedsounds digitally stored in said internal digital memory for replay;

7 (3) a port for receiving an external digital memory sound card having a plurality of  
8 prerecorded sounds different from said plurality of prerecorded sounds stored in said internal  
9 digital memory;

10 (4) a sound card selector switch to reassign said at least one sound selector switch from  
11 its said function of selecting one of said plurality of prerecorded sounds digitally stored in said  
12 internal digital memory for replay to the function of selecting one of said plurality of  
13 prerecorded sounds stored in said external sound card for replay whenever the same is received  
14 in said port; and

15 (5) a sound controller including a processor coupled to said port and to said digital  
16 memory and responsive to said switches operable in one of two (2) basic modes; in one built-in  
17 mode, any prerecorded sound stored in said internal digital memory is played by activating  
18 said at least one sound selector switch and repetitively replayed in such a way as to provide a  
19 sound environment that masks noise and soothes the listener without disrupting pauses, and in  
20 another sound card mode, any prerecorded sound stored in external digital memory of a  
21 collectable sound card inserted within said port is played by activating said sound card selector  
22 switch and by activating said at least one sound selector switch and repetitively replayed to  
23 provide a sound environment that masks noise and soothes the listener without disrupting  
24 pauses.

1 6. The improved digital sound relaxation and noise masking device of claim 5, further  
2 including a collectable sound card.

1 7. The improved digital sound relaxation and noise masking device of claim 5, further  
2 including a housing having a top wall whereinthrough said port is provided.

1 8. The improved digital sound relaxation and noise masking device of claim 5, wherein said  
2 internal memory has at least one prerecorded sound digitally stored therein in a "loop" format  
3 defining (1) a plurality of addressable memory locations and (2) start and end locations, such  
4 that a different part of said sound is stored at another address location and in such a way that  
5 the parts stored at the start and end locations are as acoustically-seamless as possible.

1 9. The improved digital sound relaxation and noise masking device of claim 1, wherein said  
2 internal memory has at least one prerecorded sound digitally stored therein in a "sound bite"  
3 type format defining at least two (2) groups of addressable memory locations, such that another  
4 self-contained and complete-in-itself version of the same sound is stored in each of said at least  
5 two (2) groups of addressable memory locations.

1 10. A collectable sound card having sounds stored therein for use with a digital sound  
2 relaxation and noise masking device having a digital controller operative in built-in and sound  
3 card replay modes and a plurality of built-in preselected, digitally prerecorded sounds  
4 individually selectable for play and repetitive replay by said digital controller in said built-in  
5 sound replay mode so as to provide sound environments that mask noise and soothe the listener

6 without disrupting pauses that enables individuals to customize their collection of sounds to  
7 their individual tastes by making the sounds of the collectable sound card available for play and  
8 repetitive replay by the digital controller in sound card replay mode of the digital sound  
9 relaxation and noise masking device in the same way that the built-in sounds thereof are  
10 available for play and repetitive replay in built-in replay mode so as to provide sound  
11 environments that mask noise and soothe the listener without disrupting pauses, comprising:

12 (1) a digital memory device having a plurality of sounds of preselected type, at least  
13 some of which are selected to be different from said plurality of preselected sounds of said  
14 digital sound relaxation and noise masking device, stored therein in a predetermined manner;  
15 and

16 (2) a connector electrically connected to said digital memory device so adapted for  
17 connection with said digital sound relaxation and noise masking device as to add the sounds of  
18 the digital memory of the collectable sound card to the sounds of said digital sound relaxation  
19 and noise masking device thereby customizing the collection of sounds available for play and  
20 repetitive replay by said digital controller in said sound card replay mode of said digital sound  
21 relaxation and noise masking device so as to provide sound environments that mask noise and  
22 soothe the listener without disrupting pauses in accord with individual taste.

1 11. The collectable sound card of claim 10, wherein at least one said prerecorded sound is  
2 digitally stored therein in a "loop" format defining (1) a plurality of addressable memory  
3 locations and (2) start and end locations, such that a different part of said sound is stored at  
4 another address location and in such a way that the parts stored at the start and end locations

5 are as acoustically-seamless as possible.

1 12. The collectable sound card of claim 10, wherein at least one said prerecorded sound is  
2 digitally stored therein in a "sound bite" format defining at least two (2) groups of addressable  
3 memory locations, such that another self-contained and complete-in-itself version of the same  
4 sound is stored in each of said at least two (2) groups of addressable memory locations.

1 14. An improved-customizability digital sound relaxation and noise masking system,  
2 comprising:

3 a collectable sound card, having a library of prerecorded sounds selectable for  
4 individual replay, matable with a digital sound relaxation and noise masking device, also  
5 having a library of prerecorded sounds selectable for individual replay, to expand the library of  
6 prerecorded sounds available for selectable replay by adding its library of prerecorded sounds  
7 to the library of the digital sound relaxation and noise masking device, said collectable sound  
8 card having (1) a digital memory in which a plurality of prerecorded sounds are stored for  
9 selectable replay and (2) a connector member for connection with said digital sound relaxation  
10 and noise masking device; and

11 a digital sound relaxation and noise masking device having (1) an internal digital  
12 memory in which are stored a plurality of prerecorded sounds for individual replay, (2) a  
13 connector member for connection with said connector member of said collectable sound card,  
14 and (3) a digital controller having operator input means and operative in response to at least



15 one operator input in a sound card mode, where said collectable sound card is mated with said  
16 digital sound relaxation and noise masking device, to play and repetitively replay a selected  
17 one of the plurality of prerecorded sounds stored on either of said digital memory of said  
18 collectable sound card or of said internal digital memory of said digital sound relaxation and  
19 noise masking device in such a way as to provide sound environments that mask noise and  
20 soothe the listener without disrupting pauses, and operative in response to at least one operator  
21 input in a stand-alone mode, where said collectable sound card is not mated with said digital  
22 sound relaxation and noise masking device, to play and repetitively replay a selected one of the  
23 plurality of prerecorded sounds stored on said internal digital memory of said digital sound  
24 relaxation and noise masking device in such a way as to provide sound environments that mask  
25 noise and soothe the listener without disrupting pauses.

1 15. An improved-customizability digital sound relaxation and noise masking system,  
2 comprising:  
3 a digital sound relaxation and noise masking device having a library of prerecorded  
4 sounds selectable for individual replay stored therein in digital format, matable with a  
5 collectable sound card having a connector member, also having a library of prerecorded sounds  
6 selectable for individual replay stored therein in digital format, to expand the library of  
7 prerecorded sounds available for selectable replay by adding its library of prerecorded sounds  
8 to the library of the collectable sound card, said digital sound relaxation and noise masking  
9 device having (1) an internal digital memory in which are digitally stored a plurality of  
10 prerecorded sounds for individual replay, (2) a connector member for connection with said

11 connector member of said collectable sound card, and (3) a digital controller having operator  
12 input means and operative in response to at least one operator input in a sound card mode,  
13 where said matable digital sound relaxation and noise masking device is mated with said  
14 collectable sound card, to play and to repetitively replay a selected one of the plurality of  
15 prerecorded sounds stored on either of said digital memory of said collectable sound card or of  
16 said internal digital memory of said digital sound relaxation and noise masking device in such  
17 a way as to provide a sound environment that masks noise and soothes the listener without  
18 disrupting pauses, and operative in response to at least one operator input in a stand-alone  
19 mode, where said digital sound relaxation and noise masking device is not mated with said  
20 collectable sound card, to play and to repetitively replay a selected one of the plurality of  
21 prerecorded sounds stored on said internal digital memory of said digital sound relaxation and  
22 noise masking device in such a way as to provide a sound environment that masks noise and  
23 soothes the listener without disrupting pauses.

~~16. The improved-customizability-digital-sound-relaxation-and-noise masking system of claim~~

2 15, further including a collectable sound card having a library of prerecorded sounds selectable  
3 for individual replay stored therein in digital format.

1 17. An improved-customizability digital sound relaxation and noise masking system,  
2 comprising:

3 a collectable sound card, having a library of prerecorded sounds selectable for

individual replay, matable with a digital sound relaxation and noise masking device of the type having a library of prerecorded digitally stored built-in sounds selectable for individual replay and a digital controller operative in built-in and sound card sound replay modes to (1) play and (2) repetitively replay any built-in sound selected in built-in sound replay mode in such a way as to provide a sound environment that masks noise and soothes the listener without disrupting pauses, in order to expand the library of prerecorded sounds available for selectable replay by adding its library of prerecorded sounds to the library of the digital sound relaxation and noise masking device, said collectable sound card having (1) a digital memory in which a plurality of prerecorded sounds are digitally stored for selectable play and repetitive replay by said digital controller of said digital sound relaxation and noise masking device in sound card replay mode in such a way as to provide a sound environment that masks noise and soothes the listener without disrupting pauses and (2) a connector member for connection with said digital sound relaxation and noise masking device.

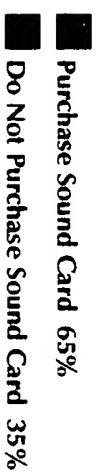
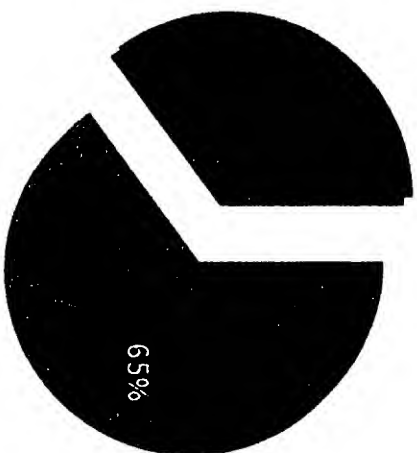
~~18. The improved customizability digital sound relaxation system of claim 17, further~~  
including a digital sound relaxation device having (1) an internal digital memory in which are digitally stored a plurality of prerecorded sounds for individual replay, (2) a connector member for connection with said connector member of said collectable sound card, and (3) a digital controller having operator input means and operative in response to at least one operator input in a sound card mode, where said collectable sound card is mated with said digital sound relaxation device, to replay a selected one of the plurality of prerecorded sounds stored on either of said digital memory of said collectable sound card or of said internal digital memory

9 of said digital sound relaxation device, and operative in response to at least one operator input  
10 in a stand-alone mode, where said collectable sound card is not mated with said digital sound  
11 relaxation device, to replay a selected one of the plurality of prerecorded sounds stored on said  
12 internal digital memory of said digital sound relaxation device.

1 19. The invention of any one of claims 1, 5, 10, 14, 15 and 17, wherein at least some of said  
2 sounds are stored in sound bite format that define at least two different self-contained and  
3 complete-in-themselves versions of the same sound, and wherein said controller is operative to  
4 play said sounds stored in said sound bite format by (1) randomly choosing a version of the  
5 selected sound; (2) randomly choosing a time when to replay it; (3) replaying the randomly  
6 chosen version of the sound selected at the randomly chosen time; and (4) repeating (1)  
7 through (3) for the duration of playback.

## Customer response to Tranquil Moments'® Sound Card invention has been excellent.

### Sound Card Purchase Rate



**65% of Tranquil Moments® customers purchase a Sound Card.**



*AF*  
*2644*

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Applicant : Vandenberg et al. Examiner : Harvey  
Serial No. : 08/706,136 Art Unit : 2644  
Filed : August 30, 1996 Attn.'s Doc. : HW-106-A  
For : **IMPROVED-CUSTOMIZABILITY DIGITAL SOUND  
RELAXATION SYSTEM**

Hon. Commissioner of Patents and Trademarks  
Washington, D.C. 20231

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TRANSMITTAL LETTER

Sir:

Submitted herewith are three (3) copies of Appellant's Appeal Brief with respect to the appeal taken to the Board of Patent Appeals and Interferences in the above-identified application dated 06/26/01. These briefs should accordingly be deemed timely filed

For the requisite fee under §1.17(c), for filing of the Appeal Brief, and any additional fees for extensions or otherwise, that may be due at this time, please charge our deposit account No. 04-1945.

Respectfully submitted,

RUDY A. VANDENBELT ET AL.

By:

Albert Peter Durigon  
Registration No. 30,049  
Attorney for Appellant

**CERTIFICATE OF MAILING**

Date of Deposit 08/24/01  
I hereby certify that the above-specified paper(s) and/or fee(s) is being deposited with the U.S. Postal Service under 37 CFR §1.10, in an envelope addressed to Honorable Commissioner of Patents and Trademarks, Box AF, Washington, D.C. 20231, on the date of deposit as indicated above.

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